

REMARKS

Claims 1-30 are pending in the application.

Claims 1-30 have been rejected.

Claims 1, 8, 11, 18, 21 and 28 have been amended herein to recite “up to a predetermined number of”, which is supported in the Applicants’ Specification (e.g., at paragraph [0035]).

Claims 1-30 are therefore pending.

CLAIM REJECTIONS -- 35 U.S.C. §102

Claims 1, 2, 4, 5, 8-12, 14, 15, 18-22, 24, 25, 28-30 were rejected under 35 U.S.C. § 102(e) as being anticipated by *Korobkin* (U.S. Patent No. 6, 912, 293, hereinafter *Korobkin*). The aforementioned rejection is respectfully traversed for the reasons given below.

A prior art reference anticipates the claimed invention under 35 U.S.C. § 102 only if every element of a claimed invention is identically shown in that single reference, arranged as they are in the claims. MPEP § 2131, p. 2100-76 (8th ed., rev. 4, October 2005)(citing *In re Bond*, 910 F.2d 831, 832, 15 U.S.P.Q.2d 1566, 1567 (Fed. Cir. 1990)). Anticipation is only shown where each and every limitation of the claimed invention is found in a single prior art reference. *Id.* (citing *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 U.S.P.Q.2d 1051, 1053 (Fed. Cir. 1987)).

Korobkin teaches subdividing an object space and geometry with hyperplanes or a 3D binary space partition (BSP) tree. Korobkin, col. 15, lines 32-33. The BSP is traversed in a front-to-back order with triangles. *Id.* at lines 36-38. Each triangle is ray-projected onto the camera imaging plane and inserted into and builds a 2D camera visibility map. *Id.* at lines 40-42. The 2D camera visibility map depicts the visible geometry of the scene as viewed by a camera and projects it onto an imaging plane or camera screen. *Id.* at lines 44-46. The camera screen is

partitioned into regions that are occupied with projected geometry (G regions) and unoccupied (U-regions). *Id.* at lines 54-56. When a polygon (e.g., a triangle) is inserted, the clipped visible regions of the polygon overlap the U-region and become a G-region. *Id.* at 56-59. Thus, the U-region is removed from the visible region of the screen. *Id.* at lines 59-60. The insertion of polygons finally stops when there are no U-regions left (i.e., the screen is full). *Id.* at lines 65-67. G-regions and U-regions appear as leaf nodes in the tree. *Id.* at line 64. Accordingly, there is no teaching or disclosure within Korobkin of binary-space-partition tree having *up to a predetermined number* of at least one shape associated with each leaf.

There is therefore no teaching or disclosure within Korobkin of building a binary-space-partition tree corresponding to the graphic object, the binary-space-partition tree having *up to a predetermined number of* at least one shape associated with each leaf, as required by amended Claim 1, and ultimately by its dependants, Claims 2, 4 and 5. Similarly, there is no teaching or disclosure within Korobkin of creating a root node and a list of additional nodes for binary-space-partition tree, each node associated with a specified number of at least one shape, as required by amended Claim 8, and ultimately by its dependants, Claims 9 and 10. Similar arguments exist for independent Claims 11, 18, 21 and 28 and their respective dependants. Therefore, the rejection of Claims 1, 2, 4, 5, 8-12, 14, 15, 18-22, 24, 25 and 28-30 under 35 U.S.C. § 102(e) has been overcome.

CLAIM REJECTIONS -- 35 U.S.C. §103

Claims 3, 6, 7, 13, 16, 17, 23, 26 and 27 were rejected under 35 U.S.C. §103(a) as being unpatentable over Korobkin in view of *Vlasic et al* (U.S. Patent Application US2004/0114794, hereinafter *Vlasic*). The aforementioned rejection is respectfully traversed for the reasons given below.

In *ex parte* examination of patent applications, the Patent Office bears the burden of establishing a *prima facie* case of obviousness. MPEP § 2142, p. 2100-133 (8th ed. rev. 4, October 2005). Absent such a *prima facie* case, the applicant is under no obligation to produce evidence of nonobviousness. *Id.* To establish a *prima facie* case of obviousness, three basic criteria must be met: *Id.* First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. *Id.* Second, there must be a reasonable expectation of success. *Id.* Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. *Id.* The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure. *Id.*

As summarized above, Korobkin fails to teach a binary-space-partition tree having *up to a predetermined number of* at least one shape associated with each leaf. Korobkin also fails to teach creating a root node and a list of additional nodes for binary-space-partition tree, each node associated with *up to a predetermined number of* at least one shape. The Office cites to Vlastic solely for the purpose of teaching caching of shape data. Vlastic, however, narrowly teaches a system for an image based rendering or modeling of a 3D object from a limited set of fixed images. Vlastic, unlike the Korobkin reference, requires the use of a triangular mesh defining a surface shape or model of an object. Vlastic, ¶ [0024]. For each vertex in the mesh, Vlastic locates a set of visible views. *Id.* at ¶ [0026]. After collecting a set of closest views, blending weights are determined to render an image. *Id.* at ¶¶ [0027-0028]. As such, there is no suggestion or motivation within the Vlastic reference for one skilled in the art to combine discrete elements from Korobkin and then *seek out* still others as required by Claims 3,

6, 7, 13, 16, 17, 23, 26 and 27 of the present application. Therefore, the rejection of Claims 3, 6, 7, 13, 16, 17, 23, 26 and 27 under 35 U.S.C. § 103(e) has been overcome.

CONCLUSION

As a result of the foregoing, the Applicants assert that the remaining Claims in the Application are in condition for allowance, and respectfully request an early allowance of such Claims.

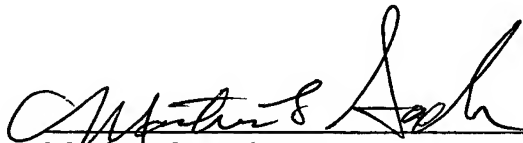
If any issues arise, or if the Examiner has any suggestions for expediting allowance of this Application, the Applicants respectfully invite the Examiner to contact the undersigned at the telephone number indicated below or at manderson@munckbutrus.com.

The Commissioner is hereby authorized to charge any additional fees connected with this communication or credit any overpayment to Davis Munck Deposit Account No. 50-0208.

Respectfully submitted,

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